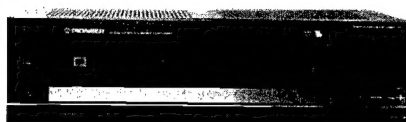




Service Manual

REPAIR & ADJUSTMENTS



**ORDER NO.
ARP-995-0**

AUDIO VIDEO MASTER AMPLIFIER

A-X909V(BK)

MODEL A-X909V (BK) COMES IN SIX VERSIONS DISTINGUISHED AS FOLLOWS:

Type	Power requirement	Destination
KU	AC120V only	U.S.A.
KC	AC120V only	Canada
HE	AC220V, 240V (switchable)	European continent
HEZ	AC220V, 240V (switchable)	West Germany
HB	AC220V, 240V (switchable)	United Kingdom
S	AC110V, 120V, 220V, 240V (switchable)	General market

- This service manual is applicable to the KU type.
- As to the KC, HE, HB and S types, please refer to the additional service manual (ARP-996).
- As to the HEZ type, please refer to the additional service manual (ARP-974).
- As to the circuit descriptions, please refer to the A-X909V (BK) service manual (ARP-997).
- Ce manuel d'instruction se fefère au mode de réglage en français.
- Este manual de servicio trata del método ajuste escrito en español.

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1. SPECIFICATIONS

Amplifier Section

Continuous average power output is 70 watts* per channel, min., at 8 ohms from 20 Hertz to 20,000 Hertz with no more than 0.1% total harmonic distortion.

Total harmonic distortion	
1 kHz, 35 W, 8 Ω	0.05%
Input (sensitivity/impedance)	
PHONO MM	2.5 mV/47 k Ω
TUNER, CD, TAPE PLAY, ADP, VCR	150 mV/47 k Ω
Overload level	
PHONO MM 1 kHz, 0.1%	75 mV
Output (level/impedance)	
TAPE REC	150 mV/2.2 k Ω
Frequency Response	
PHONO MM 20 Hz to 20 kHz	± 0.5 dB
TUNER, CD, AUX	20 Hz to 50 kHz $\pm \frac{1}{2}$ dB
Tone Control	
BASS	± 10 dB 100 Hz
TREBLE	± 10 dB 10 kHz
Loudness contour (volume control set at -40 dB position)	+ 7 dB 100 Hz/ + 4 dB 10 kHz
Hum and Noise (IHF short circuited, A network)	
PHONO MM	72 dB
TUNER, CD, TAPE PLAY, ADP, VCR	90 dB

Video Section

Input jacks (sensitivity/impedance)	
VDP, TV, VCR 1, VCR 2	1Vp-p/75 Ω
Output jacks (sensitivity/output level)	
VCR 1, VCR 2, REC	1Vp-p/75 Ω
Monitor output	1Vp-p/75 Ω
VHF output	Channel 3/4

Power Supply/Miscellaneous

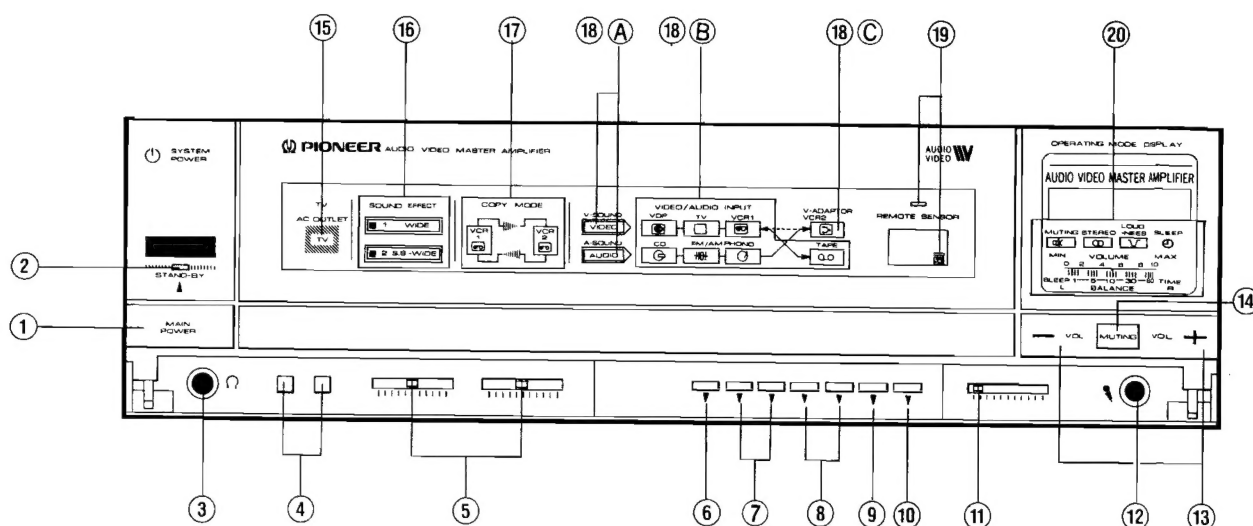
Power requirements	AC 120 V, 60 Hz
Power consumption	180 W
AC outlets	
Switched (x 2)	(300 W)
Switched (x 1)	(250 W)
Dimensions	360(W) x 331.5(D) x 100(H) mm
	14-3/16 (W) x 13-1/8 (D) x 3-7/8 (H) in
Weight	7.4 kg (16 lb 5 oz)

Accessories

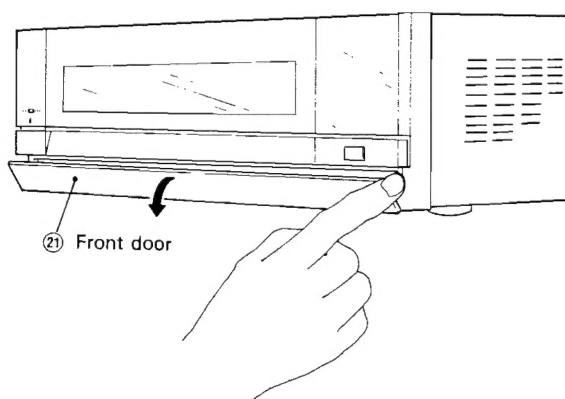
Operating instructions	1
Operating instructions for full remote control unit	1
System component connections	1
Full remote control unit	1
Size "AAA" (R03) dry batteries	2
Video output cord	1
RF cord	1
Spacer	4

- Specifications and design subject to possible modification without notice due to improvements.
- *Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Claims for Amplifier.

2. FRONT PANEL FACILITIES



Opening the front door



① MAIN POWER switch

Push this to switch the unit's power on and off.

② SYSTEM POWER switch/indicator

- When the MAIN POWER switch is ON, the power to the unit's switched auxiliary power outlets on its rear panel is switched on and off with this switch.
- Every time this switch is pressed, the power is repeatedly switched on and off alternately. When the power is off, the indicator lights and the signals from the VHF antenna are directly connected without being passed through the unit so that the TV alone may be used.
- This switch can be set to the ON and STAND-BY positions using the full remote control unit. This means that it is possible to switch on and off the components connected to the unit's switched auxiliary outlets from the listening position.

③ PHONES jack

Plug the headphones into this jack for use.

④ SPEAKERS selector switches

SPEAKERS A selector switch

This switch selects the speaker system connected to the terminals of speakers A.

[ON] Depressed position: Sound is output from the speaker system

[OFF] Released position: No sound output is from the speaker system. Use this position when employing headphones.

SPEAKERS B selector switch

This switch selects the speaker system connected to the terminals of speakers B.

[ON] Depressed position: Sound is output from the speaker system

[OFF] Released position: No sound output is from the speaker system. Use this position when employing headphones.

⑤ TONE CONTROLS**BASS control**

This is used to adjust the bass sound.

The control's center position is the standard (flat) setting. When the control is moved right, the bass is enhanced and when moved left, it is attenuated.

TREBLE control

This is used to adjust the treble sound.

The control's center position is the standard (flat) setting. When the control is moved right, the treble is enhanced and when moved left, it is attenuated.

⑥ VCR COPY switch

This is used when two video cassette recorders (VCRs) are employed to copy material from one video tape to another. Every time the switch is pressed, 1▷2, 2▷1 and OFF are selected in sequence.

1 ▷ 2: The ▷ COPY MODE indicator lights. This is used to copy from the VCR 1 connected to the VCR 1 jacks onto the VCR 2 connected to the VCR 2 jacks.

2 ▷ 1: The ◁ COPY MODE indicator lights. This is used to copy from the VCR 2 connected to the VCR 2 jacks onto the VCR 1 connected to the VCR 1 jacks.

⑦ INPUT selector switches**VIDEO switch**

Press this when operating video components. Every time it is pressed, the pictures and sound of the components to be operated is selected.

AUDIO switch

Press this when operating audio components. Every time it is pressed, the picture remains unchanged and the sound alone of the components is switched.

⑧ BALANCE switches

Normally, the BALANCE indication on the operating mode display is kept at its center position (setting is made here by pressing L and R simultaneously). Adjust these switches when the volume tends to be louder at the left or right. If it is too loud at the right, press L; if it is too loud at the left, press R.

⑨ LOUDNESS switch

Use this switch when listening to sound at a low volume. The switch is ON when "LOUDNESS" on the operating mode display lights. In this mode, the bass and treble are boosted and the sound takes on an extra "punch" even at low volume levels.

⑩ MODE switch

This selects the mode in which the sound is heard.

When "STEREO" on the operating mode display lights, the sound is heard in normal stereo, and every time the switch is pressed, the sound is heard in the L, R and stereo modes in sequence.

L: The left channel sound only is heard (signals connected to the left of the two rear panel jacks).

R: The right channel sound only is heard (signals connected to the right of the two rear panel jacks).

The STEREO mode is automatically set when one of the INPUT selector switches has been set or when the power switch has been set to OFF.

⑪ MIC MIXING LEVEL control

This adjusts the volume of the components connected to the rear panel and the volume of the microphone plugged into the MIC jack. The microphone's volume is set to its maximum at the MIC position and the sound from the components is not heard. Conversely, the volume of the components is set to its maximum at the SOURCE position and the microphone sound is not heard.

NOTE:

Always remember to keep the control at the SOURCE position when operating only the components.

⑫ MIC jack

Plug the microphone into the jack for use.

⑬ VOLUME switches

Use these to adjust the volume.

[+]: This press the volume up.

[-]: This press the volume down.

⑭ MUTING switch

Use this switch to temporarily turn down the sound completely.

This switch is ON when "MUTING" on the operating mode display lights, and in this mode no sound is heard.

The volume returns to its previous level when the switch is returned to the OFF position.

⑮ TV AC OUTLET indicator

This lights when power is supplied to the TV set connected to the rear panel's TV auxiliary outlet. The accessory full remote control unit can be used for operation.

⑯ SOUND EFFECT indicators

These display the "sound" effect setting. The accessory full remote control can be used for operation.

⑰ COPY MODE indicators

These display the setting of the VCR COPY switch.

Copying is possible from VCR 1 to VCR 2 when ▷ lights and from VCR 2 to VCR 1 when ◁ lights.

⑱ VIDEO/AUDIO INPUT indicators

Ⓐ: These indicate the INPUT selector switch settings; VIDEO lights for video components and AUDIO for audio components.

Ⓑ: These indicate the component(s) being operated.

Ⓒ: This lights when the VIDEO ADAPTOR key on the full remote control unit is ON.

⑲ REMOTE SENSOR

This lights when it receives signals from the full remote control unit.

②① OPERATING MODE DISPLAYS

- [MUTING]: This lights when the MUTING switch is set to ON.
- [STEREO]: This lights when the MODE switch is at STEREO.
- [LOUDNESS]: This lights when the LOUDNESS switch is at ON.
- [SLEEP]: This lights when the sleep timer is set by the full remote control unit.
- [VOLUME] With SLEEP OFF;
- [BALANCE] The volume is normally indicated by the "VOLUME" display. When the BALANCE switch is pressed, the "BALANCE" display is selected and the volume balance between the left and right channels is indicated. (A return is automatically made after a few seconds to the "VOLUME" display.)
- [SLEEP TIME]: With SLEEP ON:
SLEEP lights. Normally, the "SLEEP TIME" display shows the 60-minute or 30-minute setting and the remaining time. The display blinks when one minute remains. When the VOLUME or BALANCE switch is pressed, the "VOLUME" or "BALANCE" display is selected, respectively. (A return is automatically made after a few seconds to the "SLEEP TIME" display.)

②① Front door

This unit stores the positions at which the switches below are used in its microcomputer for about one week after the main power has been switched off. This means that when the power is switched back on again, the same positions of the various switches as those set previously are restored.

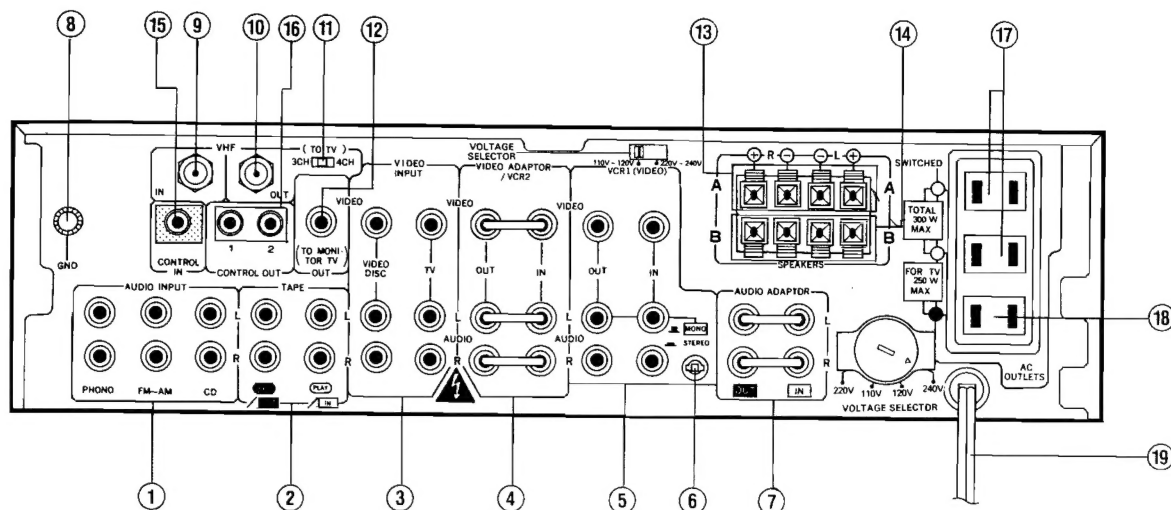
- INPUT selector switch
- MUTING switch
- VCR COPY switch
- LOUDNESS switch
- BALANCE switches
- VOLUME switches (setting is made to where three indicators lights when the volume is so high that 4 or more indicators light)
- SOUND EFFECT key
- VIDEO ADAPTOR key
- TV AC OUTLET key

Unless the unit is used within the week, the positions stored in the memory are erased and the following positions are set:

- VOLUME switches: Minimum
- LOUDNESS, MUTING switches: OFF
- BALANCE switches: Center
- VCR COPY switch: OFF
- SOUND EFFECT key: OFF
- VIDEO ADAPTOR key: OFF
- TV AC OUTLET key: OFF

The ②, ⑦, ⑬ and ⑭ switches can be operated using the accessory full remote control unit. Refer to the Operating Instructions accompanying this unit for details on the control unit itself and how to operate it.

Rear Panel



① AUDIO INPUT jacks

PHONO: For playing a record on the turntable.
FM/AM: For operating an FM/AM tuner.
CD: For playing a compact disc player.

② TAPE/TEL ADAPTOR jacks

REC/OUT: For recording on a tape deck or for the telephone adaptor output.
PLAY/IN: For playback on a tape deck or for the telephone adaptor input.
 If you plan to use a telephone adaptor, connect it to these jacks and connect the tape deck to the telephone adaptor.

③ VIDEO INPUT jacks

VDP

VIDEO: For playing a video disc on a video disc player (VDP).
AUDIO: For reproducing sound on a VDP.

TV

VIDEO: For reproducing the images of the TV tuner.
AUDIO: For reproducing the sound of the TV tuner.

④ VIDEO ADAPTOR/VCR 2 jacks

OUTPUT

VIDEO: For the video output to a video adaptor (color corrector or enhancer, etc) or second video cassette recorder (VCR 2).
AUDIO: For the audio output to a video adaptor or second video cassette recorder (VCR 2).

INPUT

VIDEO: For the video input from the video adaptor or second video cassette recorder (VCR 2).
AUDIO: For the audio input from the video adaptor or second video cassette recorder (VCR 2).

⑤ VCR 1 jacks

OUTPUT

VIDEO: For recording the images on the first video cassette recorder (VCR 1).
AUDIO: For recording the sound on the first video cassette recorder (VCR 1).

INPUT

VIDEO: For playing back the images from the first video cassette recorder (VCR 1).
AUDIO: For playing back the sound from the first video cassette recorder (VCR 1).

⑥ STEREO/MONO selector switch

STEREO: (depressed position): Set the switch here when connecting a stereo video cassette recorder to the VCR 1 audio input jacks.

MONO: (released position): Set here when connecting a monaural type of video cassette recorder (provided with only one audio output plug) to the VCR 1 audio input jacks.
 In this case, make sure that the audio plug is connected to "L."

⑦ AUDIO ADAPTOR jacks

OUTPUT: For output (connected to input jacks of audio adaptor).

INPUT: For input (connected to output jacks of audio adaptor).

For normal use, always keep the connecting bars in place. No sound will be heard once they are removed. Use them when an audio adaptor (such as a graphic equalizer) is employed.

⑧ PHONO GND terminal

Connect the ground wire of the turntable to this terminal.

⑨ VHF INPUT jack

This is the input jack for the TV's VHF antenna. Connect it to the VHF antenna or to the VHF output jack on the TV tuner or video cassette recorder.

Use the cord with the F-type plug for connection.

⑩ VHF OUTPUT jack

This is the output jack for the TV's VHF antenna. Connect it to the TV's VHF input jack.

Use the cord with the F-type plug for connection.

⑪ CHANNEL selector switch

This selects the built-in VHF converter. Set it to channel 3 or 4, depending on which channel in your area is not being used for broadcasting.

⑫ VIDEO OUTPUT jack

This is the video output jack for playing images of a video component connected to the VIDEO INPUT jack or VIDEO ADAPTOR/VCR 2 or VCR 1 jack. Connect it to a color monitor or to a TV set which is equipped with a video input jack.

⑬ SPEAKERS A terminals

"R" is for the system installed on the right and "L" for the system installed on the left.

⑭ SPEAKERS B terminals

"R" is for the system installed on the right and "L" for the system installed on the left.

⑮ CONTROL INPUT jack

This jack for controlling the master amplifier with the full remote control unit when it is used with PIONEER's component display.

Connect the jack to the control output jack on the other component (refer to SYSTEM COMPONENT CONNECTIONS on the separate sheets for details).

Make the connection using the control cord provided with the component bearing the "SR" symbol.

⑯ CONTROL OUTPUT jacks

These jacks are for controlling the overall system using the master amplifier's full remote control unit when it is used with components bearing the "SR" symbol. Connect the jack to the control input jack on the other component (refer to SYSTEM COMPONENT CONNECTIONS on the separate sheets for details).

Make the connection using the control cord provided with the component bearing the "SR" symbol.

⑰ SWITCHED AC OUTLETS (MAX. 300 W)

- The power to the components (whose power switches are kept at the "ON" position) connected to these outlets is switched ON and OFF by the ON/STAND-BY setting of the master amplifier's SYSTEM POWER switch.
- Ensure that the combined power consumption of the components connected to these outlets does not exceed 300 watts.

NOTE:

Do not connect appliances with high power consumption such as heaters, irons, or television sets to the AC OUTLETS in order to avoid overheating or fire risk.

This can cause the amplifier to malfunction.

⑱ TV AC OUTLET (SWITCHED MAX. 250 W)

- When the TV's power plug is connected here, its power is switched ON and OFF by setting the TV/AC OUTLET switch on the full remote control unit to ON and OFF (provided that the TV's power switch is kept at the "ON" position).
- Ensure that the power consumption of the TV connected to this outlet does not exceed 250 watts.

NOTE:

- *When the master amplifier is connected to an audio timer, connect the TV to a wall AC outlet.*
- *Connect the PIONEER component display to a wall AC outlet.*
- *Do not connect appliances with high power consumption such as heaters or irons to the AC OUTLETS in order to avoid overheating or fire risk.*

This can cause the equipment to malfunction.

⑲ Power cord

Connect this to a wall AC outlet or to the electrical outlet of an audio timer.

Power consumption of AC outlets

Under no circumstances should an electrical appliance (such as a toaster or hair drier) with a power consumption exceeding the maximum rating marked on the panel be connected to these outlets since malfunctioning or breakdowns may result.

Speaker impedance

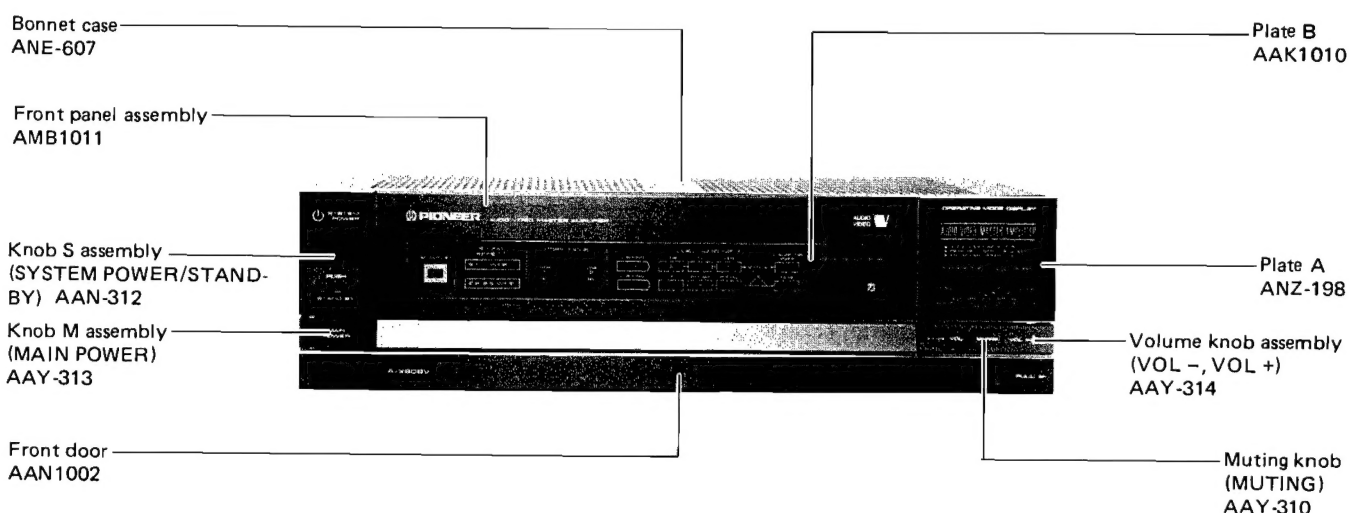
Use speaker systems with an impedance ranging from 6 to 16 ohms for connection to the SPEAKERS A or B terminals. If speaker systems are to be connected to the A and B terminals at the same time, use units with impedance ranging from 12 to 32 ohms.

3. PARTS LOCATION

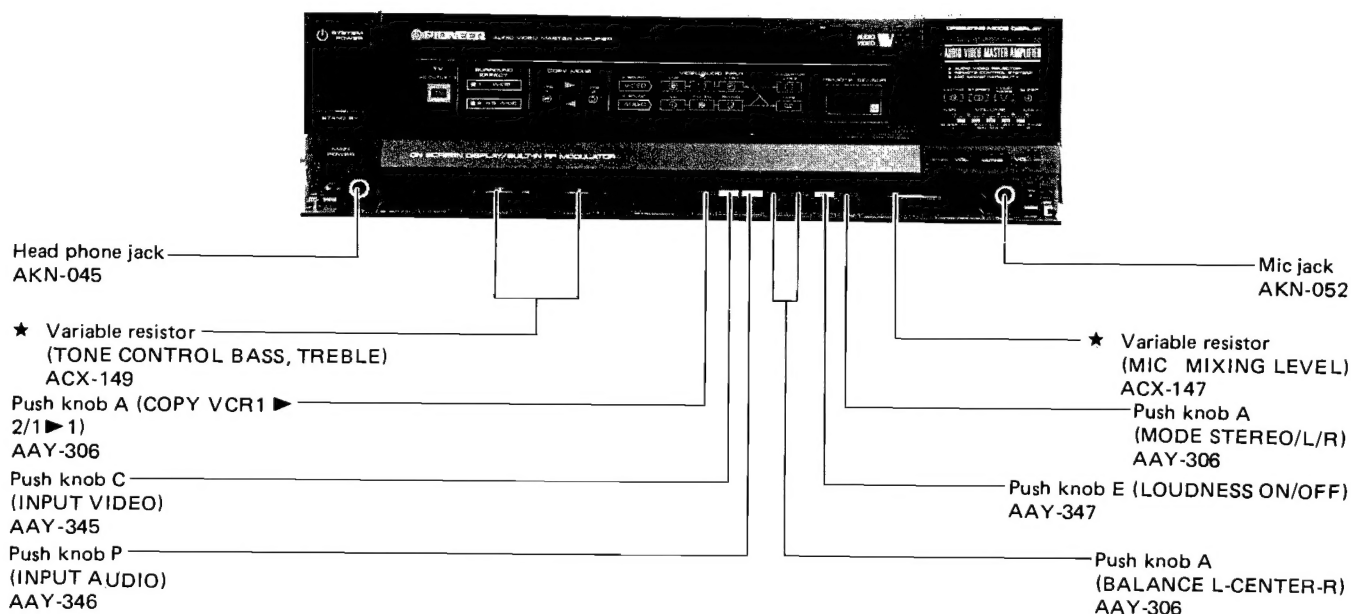
NOTES:

- The \triangle mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
- For your Parts Stock Control, the fast moving items are indicated with the marks **★★** and **★**.
★★ GENERALLY MOVES FASTER THAN ★
 This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
- Parts marked by " \odot " are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

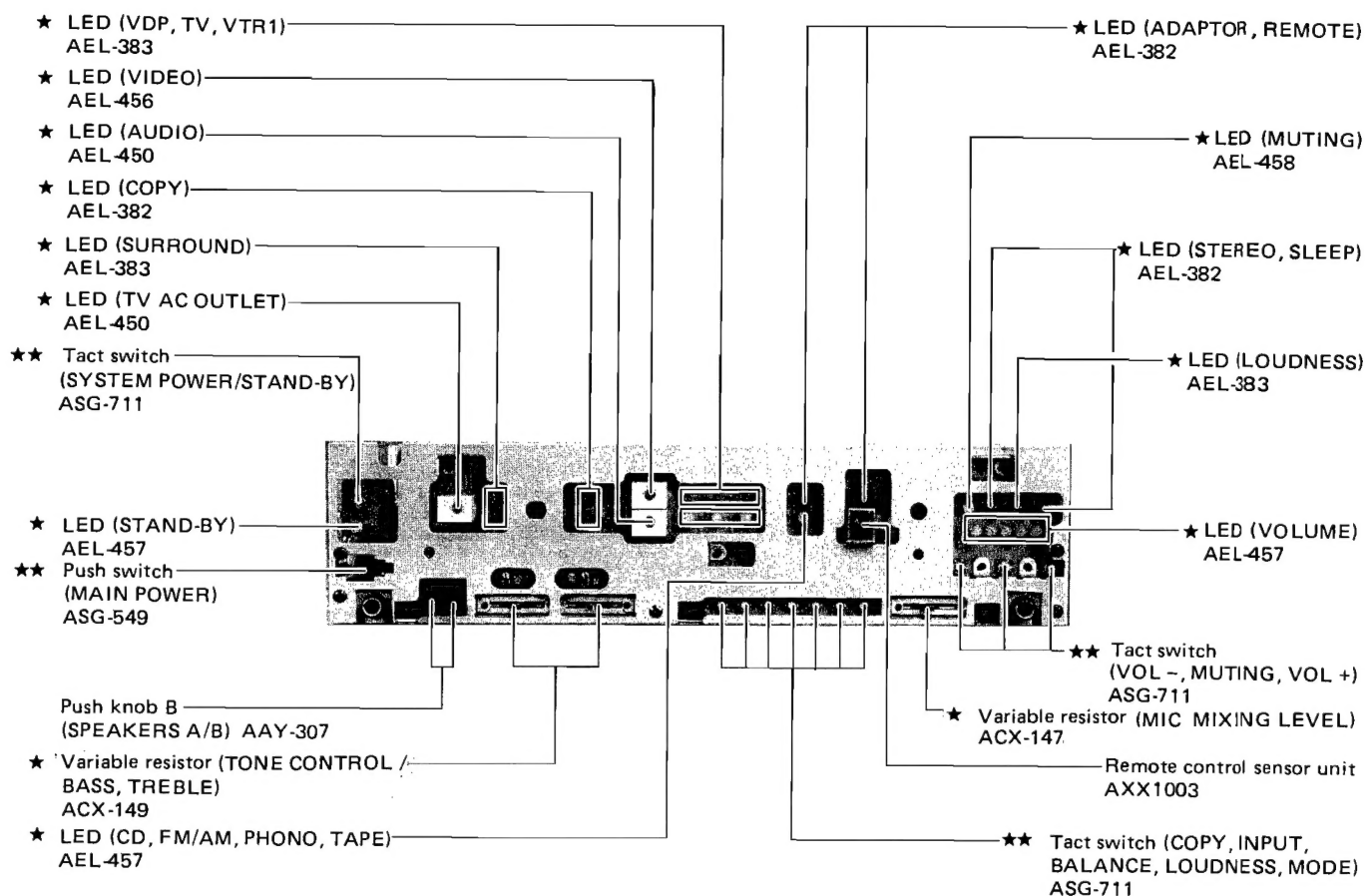
Front Panel View



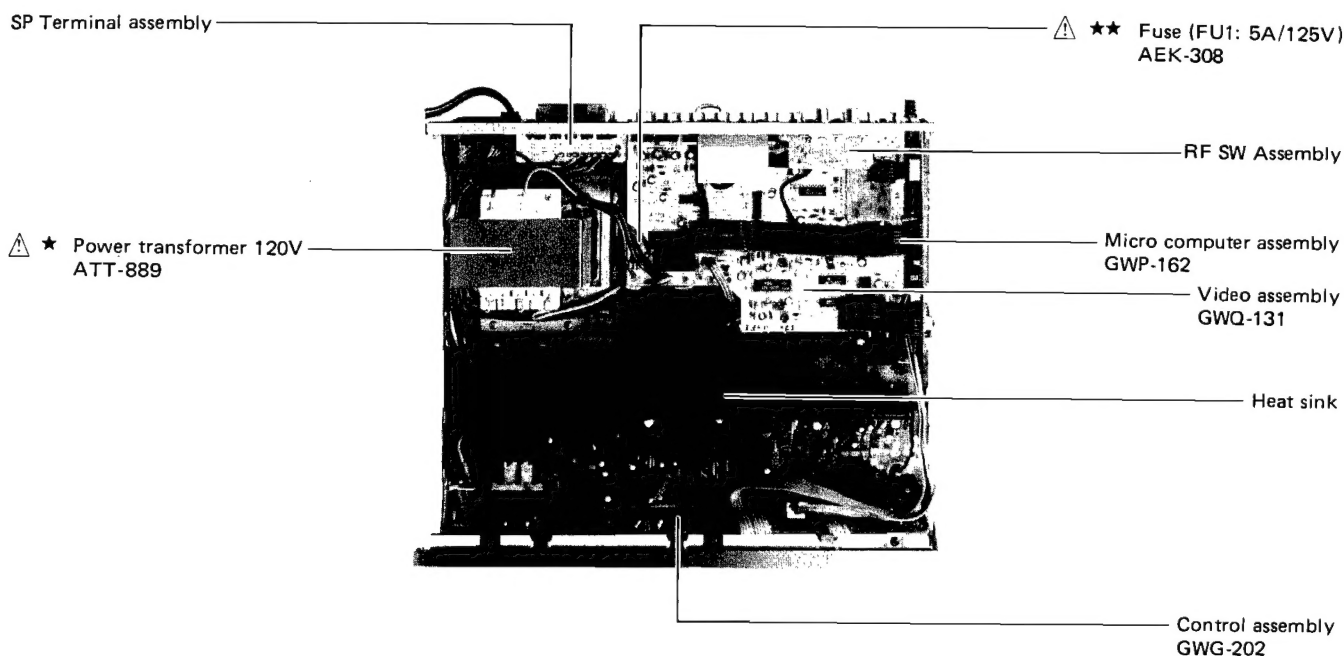
Front Panel View



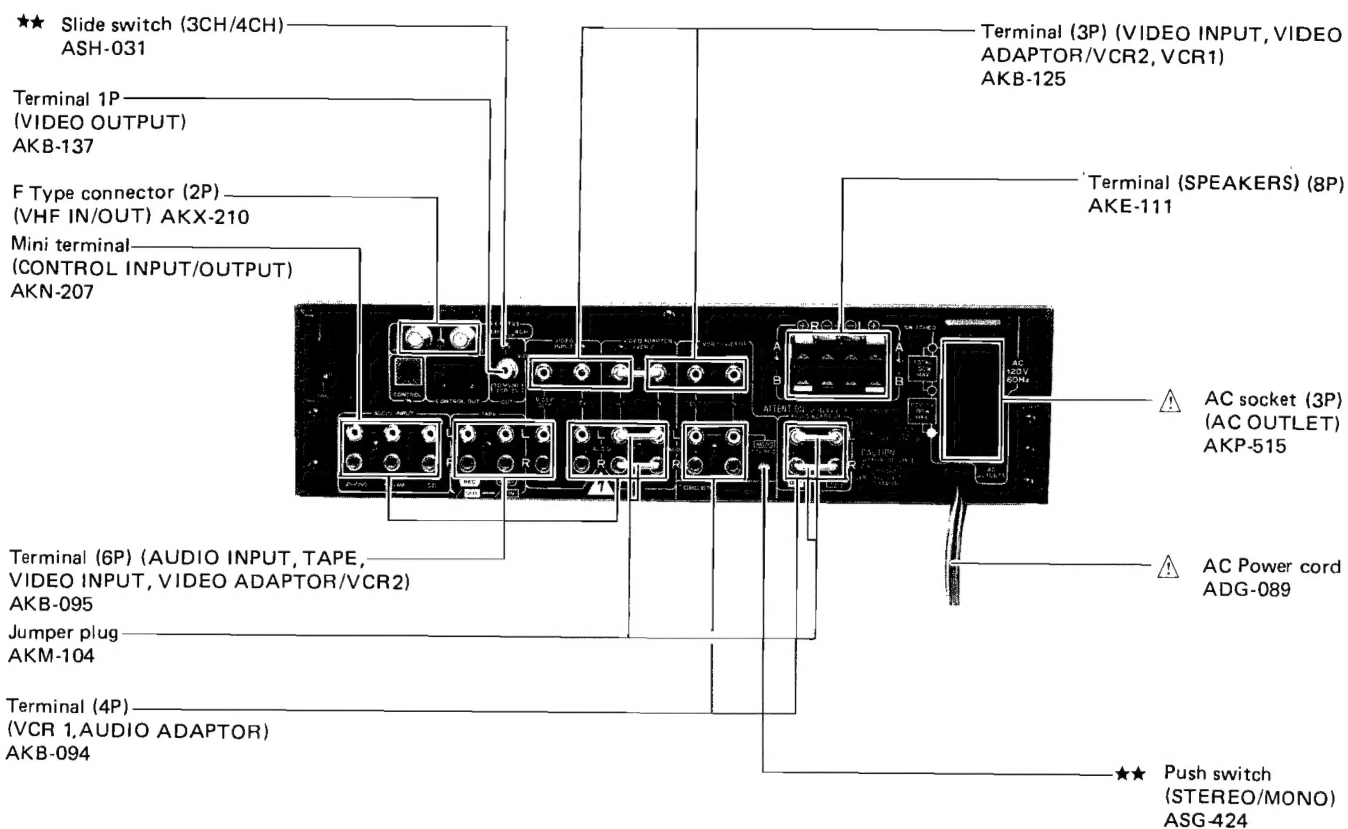
Front View with Front Panel Removed



Top View with Bonnet Case Removed



Rear View



4. DISASSEMBLY

- **How to Demount RF Switch Assembly and Video Assembly**

1. Detach the screw marked ① from the rear Panel's face and demount RF Switch Assembly.
2. Detach the five screws marked ② from the rear panel's face, detach the two rivets marked ③ from the board's face and demount the Video Assembly.

- **How to Demount the Microcomputer Assembly**

1. After demounting the RF Switch Assembly and the Video Assembly, detach the two rivets marked ④ and demount the Microcomputer Assembly.

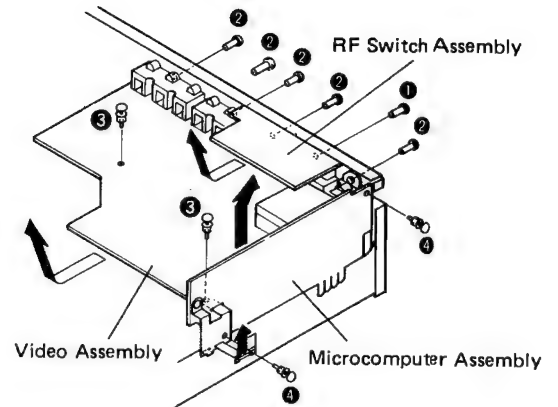


Fig. 4-1 How to demount the Video Assembly, RF switch Assembly and the Microcomputer Assembly

- **How to Demount the Bottom (BASE) Plate**

1. Detach the five screws marked ⑤ and demount the bottom plate.

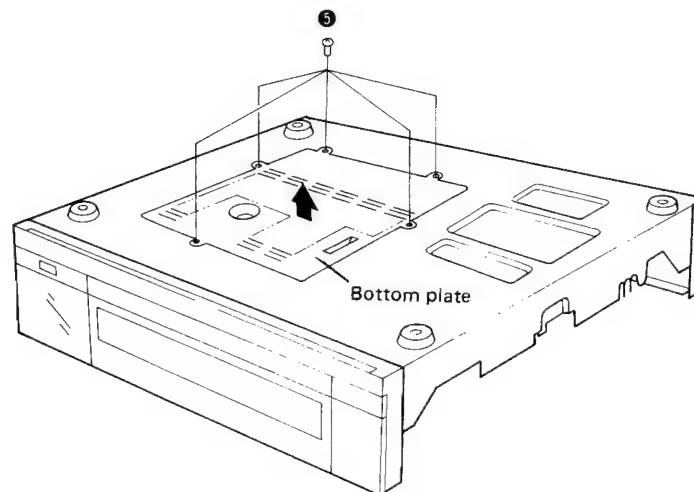


Fig. 4-2 How to demount the bottom plate

• How to Demount the Control Assembly

1. Detach the three screws marked ⑥ and the three claws from the upper face and demount the front panel assembly.
Detach the rubber securing the remote control receiver and demount the receiver from the front panel.

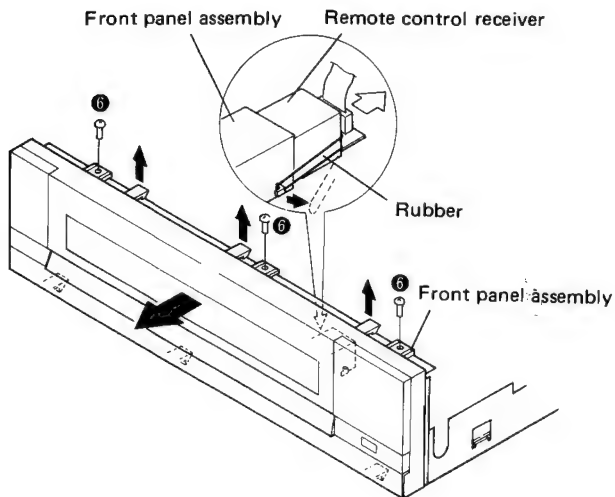


Fig. 4-3 How to demount the front panel assembly

2. Detach the five screws marked ⑦ and demount the front stay.

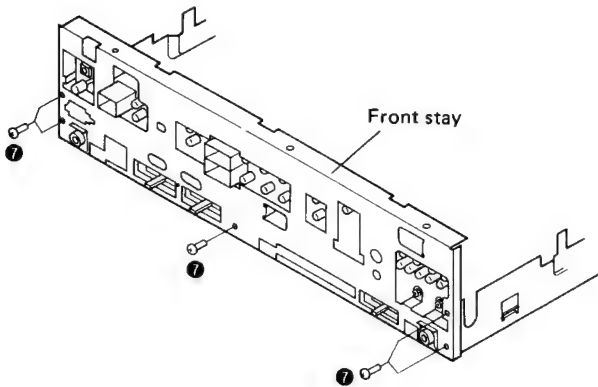


Fig. 4-4 How to demount the front stay

3. Detach the three screws marked ⑧, the five rivets marked ⑨, and demount the Control Assembly.

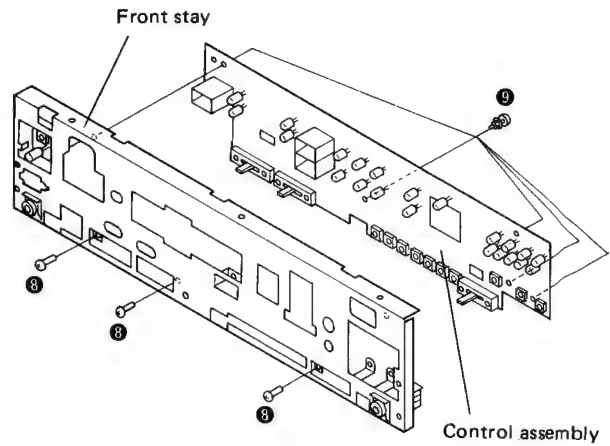


Fig. 4-5 How to demount the control assembly

• How to Mount the Door

As Fig. 4-6 shows, mount the door to the front panel in the horizontal position.

Warning: Do not attempt to mount the door in the vertical position since this will damage the claws of the hinges.

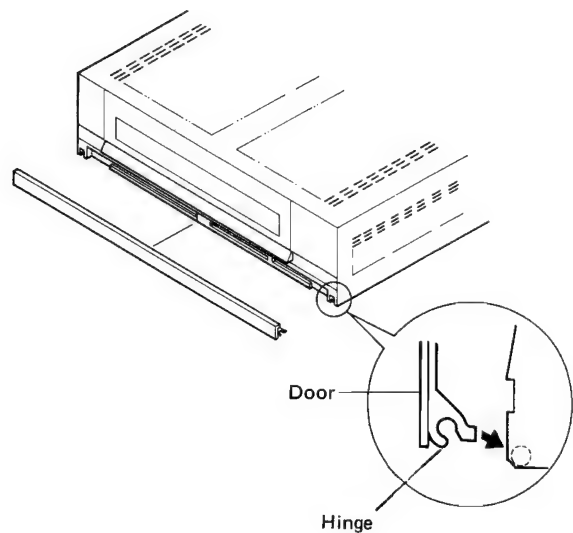


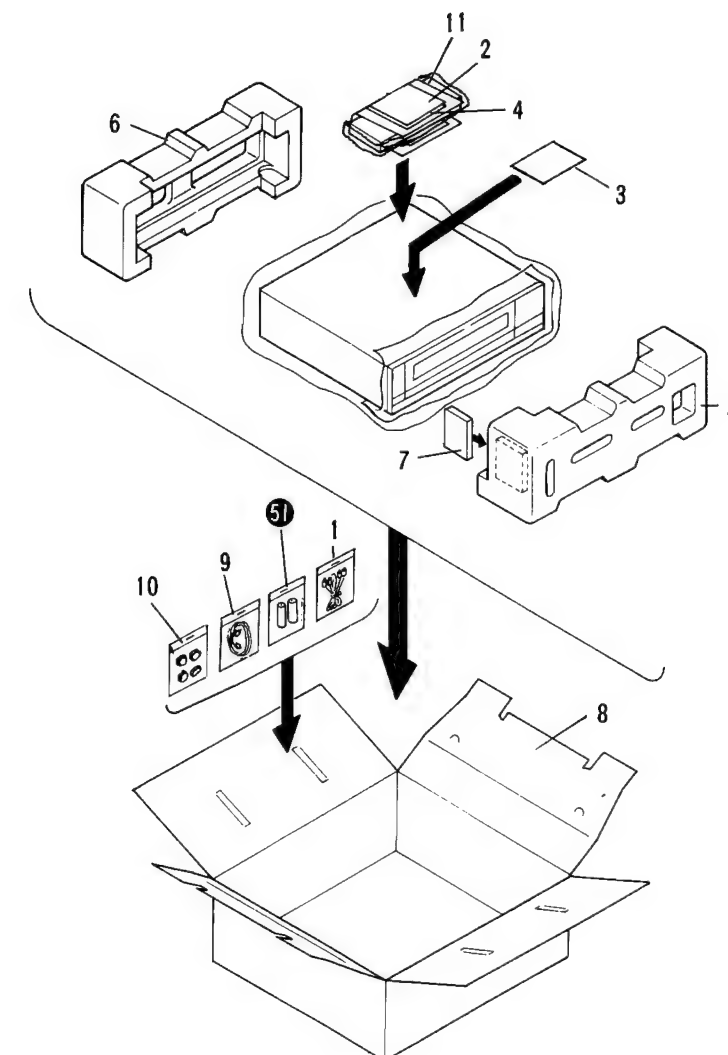
Fig. 4-6 How to mount the door

6. PACKING

- NOTES:
- Parts without part number cannot be supplied.
 - The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
 - For your Parts Stock Control, the fast moving items are indicated with the marks **★★** and **★**.
★★ GENERALLY MOVES FASTER THAN ★
This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
 - Parts marked by " \odot " are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

PART LIST OF EXPLODED VIEW

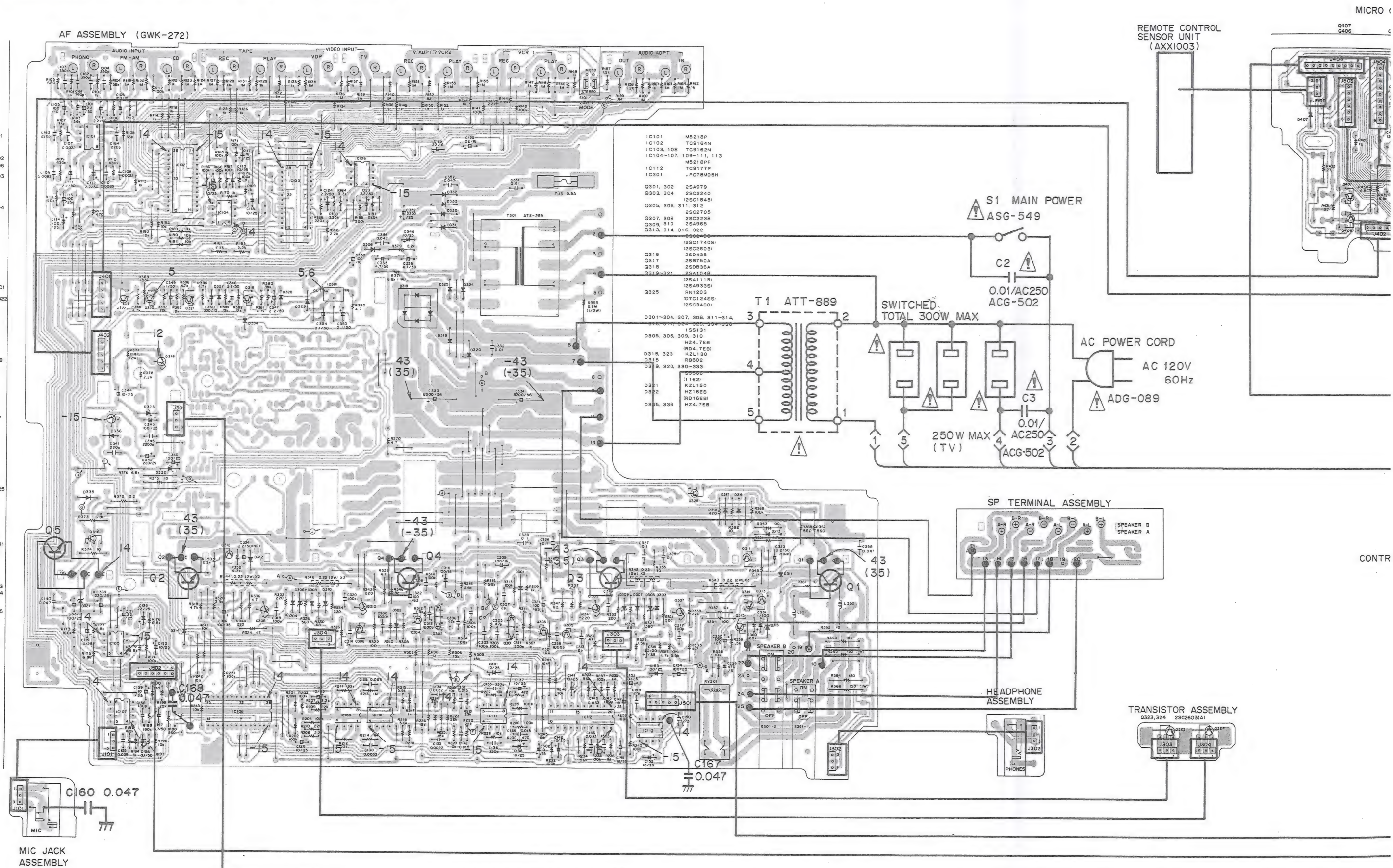
Mark	No.	Part No.	Description	Mark	No.	Part No.	Description
	1	GWG-202	Control assembly		36	AAK1010	Plate B
	2	GWK-272	AF assembly		37	ANE-607	Bonnet case
	3	GWP-162	Microcomputer assembly		38	AEC-818	Mica sheet
	4	GWQ-131	Video assembly	Δ	39	ADG-089	AC power cord
★★	5	2SA1215 (A)-O* (2SA1215-P)* (2SA1215-Y)*	Transistor (Q3, Q4)		40	AEC-525	Nylon rivet
★★	6	2SC2577 (A)	Transistor (Q5)		41	WA35F100N080	Washer
★★	7	2SC2921 (A)-O* (2SC2921(A)-P)* (2SC2921(A)-Y)*	Transistor (Q1, Q2)		42	BBZ26P060FZK	Screw
Δ	8	ACG-502	Ceramic capacitor (C2, C3)		43	ABA-115	Screw
Δ ★	9	CKDYF473Z50	Ceramic capacitor (C1)		44	ABA-258	Screw
	10	ATT-889	Power transformer (T1)(120V) *hfe should have the some value.		45	BBZ30P080FMC	Screw
	11	AKM-104	Jumper plug		46	BBZ30P080FZK	Screw
Δ	12	AKP-515	AC socket 3P (AC OUTLET)		47	PMZ20P030FZK	Screw
Δ ★★	13	ASG-549	Push switch (S1) (POWER)		48	VMZ26P040FZK	Screw
Δ ★★	14	AEK-136	Fuse (FU3: 0.5A, 125V)		49	VMZ30P060FMC	Screw
Δ ★★	15	AEK-308	Fuse (FU1: 5A, 125V)		50	VMZ30P060FZK	Screw
	16	AXX1003	Remote receive unit		51	AEC-942	Mica sheet
	17	AEP-320	Reg assembly		100		Terminal (GND)
	18		101		Chassis
	19	AAY-307	Push knob B (SPEAKERS)		102		Panel stay
	20	AMB1011	Front panel assembly		103		Bottom plate
	21	AAN1002	Front door		104		Trans holder
	22	AAN-312	Knob S assembly (SYSTEM POWER/STND-BY)		105		SW Holder
	23	AAY-313	Knob M assembly (MAIN POWER)		106		PCB Holder A
	24	AAY-314	Volume knob assembly (VOL-, VOL +)		107		PCB Holder B
	25	AAY-310	Muting knob (MUTING)		108		Heat sink
	26	AAY-306	Push knob A (COPY, BALANCE, MODE)		109		Mount plate
	27	ABH-159	Coil spring		110		Switch assembly
	28	AAY-345	Push knob C (INPUT VIDEO)		111		Rubber ring
	29	AAY-346	Push knob D (INPUT AUDIO)		112
	30	AAY-347	Push knob E (LOUDNESS)		113		Headphone assembly
	31	ANZ-200	Hinge L		114		Mic jack assembly
	32	ANZ-201	Hinge R		115		Transistor assembly
	33	ABH-155	Coil spring		116		RF, SW Assembly
	34	AAP-136	Aluminium panel		117		SP Terminal assembly
	35	ANZ-198	Plate A		118		Cushion rubber
					119		Cushion rubber
					120		Rear panel



PART LIST OF PACKING

Mark	No.	Part No.	Description
	1	ADE-089	Connection cord with plug
	2	ARB1004	Operating instruction
	3	ARB1006	Operating instruction (REMOTE CONTROL)
	4	ARH1003	Note sheet
	5	AHA-409	Front pad
	6	AHA-410	Rear pad
	7	AHB-157	Sub pad
	8	AHD1005	Packing case
	9	AEA-064	Connection cable (RF)
	10	AEA1001	Spacer assembly
	11	AXD1003	Remote control unit
	51		Battery assembly

7. P.C.BOARDS CONNECTION DIAGRAM



7

8

9

10

11

12

A

B

C

D

MICRO COMPUTER ASSEMBLY (GWP-162)

VIDEO ASSEMBLY (GWQ-131)

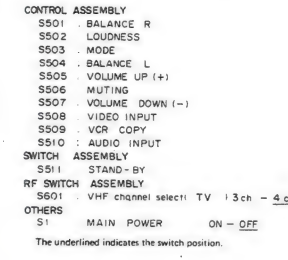
RF SW ASSEMBLY

CONTROL ASSEMBLY (GWG-202)

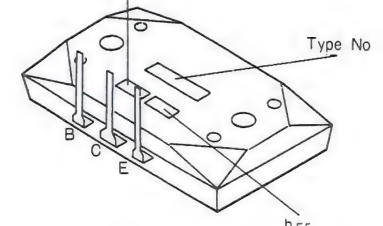
SWITCH ASSEMBLY

BLY

D



Lot No



9. ELECTRICAL PARTS LIST

NOTES:

- When ordering resistors, first convert resistance values into code form as shown in the following examples.
 Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).
 560Ω 56 × 10¹ 561 RD4PS 5 6 1 J
 47kΩ 47 × 10³ 473 RD4PS 4 7 3 J
 0.5Ω 0R5 RN2H 0 R 5 K
 1Ω 010 RS1P 0 1 0 K
 Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).
 5.62kΩ 562 × 10¹ 5621 RN4SR 5 6 2 1 F
 • The △ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
 • For your Parts Stock Control, the fast moving items are indicated with the marks ★★ and ★.
 ★★ **GENERALLY MOVES FASTER THAN ★**
 This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
 • Parts marked by “ ⊙ ” are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

Miscellaneous Parts

P.C. BOARD ASSEMBLIES

Mark	Symbol & Description	Part No.
	Control assembly	GWG-202
	AF Assembly	GWK-272
	Microcomputer assembly	GWP-162
	Video assembly	GWQ-131
	Headphone assembly	Non supply
	Mic jack assembly	Non supply
	Transistor assembly	Non supply
	RF SW assembly	Non supply
	SP Terminal assembly	Non supply
	Switch assembly	Non supply

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	Q3, Q4	2SA1215(A)-O* (2SA1215(A)-P)* (2SA1215(A)-Y)*
★★	Q5	2SC2577(A)
★★	Q1, Q2	2SC2921(A)-O* (2SC2921(A)-P)* (2SC2921(A)-Y)*

*hfe should have the some value.

SWITCH

Mark	Symbol & Description	Part No.
△ ★★	S1 Push switch (MAIN POWER)	ASG-549

TRANSFORMER

Mark	Symbol & Description	Part No.
△ ★	T1 Power transformer (AC120V)	ATT-889

CAPACITORS

Mark	Symbol & Description	Part No.
△	C2, C3 Power capacitor (0.01/250V)	ACG-502
	C1 Ceramic capacitor	CKDYF473Z50

FUSES

Mark	Symbol & Description	Part No.
△ ★★	FU3 Fuse (0.5A, 125V)	AEK-136
△ ★★	FU1 Fuse (5A, 125V)	AEK-308

OTHERS

Mark	Symbol & Description	Part No.
	Jumper plug	AKM-104
△	AC Socket 3P (AC OUTLETS)	AKP-515
△	AC power cord	ADG-089
	Remote control sensor unit	AXX1003
	Remote control unit	AXD1003

Control Assembly (GWG-202)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC501, IC502 Output expander IC	PD0012A
★★	Q501	2SA1048 (2SA1115) (2SA933S)
★★	Q502	2SC2458 (2SC1740S) (2SC2603)
★	D505—D507, D513, D516, D528	AEL-382
★	D515, D517—D519, D521, D522	AEL-383
★	D527, D529	AEL-450
★	D520	AEL-456
★	D508—D512, D523—D526	AEL-457 (AEL-462)
★	D514	AEL-458
★	D501—D504	ISS131

SWITCHES

Mark	Symbol & Description	Part No.
★★	S501—S510 (BALANCE, INPUT, MODE, LOUDNESS, MUTING, VOLUME, VCR COPY)	ASG-711 (ASG-703)

CAPACITORS

Mark	Symbol & Description	Part No.
	C505, C506	CEYA2R2M50
	C511, C512	CKDYX473M25
	C507, C508	CQMA122K50
	C503, C504	CQMA124K50
	C501, C502	CQMA273K50
	C509, C510	CQMA562K50

RESISTORS

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
★	VR503 Variable resistor (MIC MIXING 100kΩ)	ACX-147
★	VR501, VR502 Variable resistor (BASS, TREBLE 100kΩ)	ACX-149
	R520, R521, R524—R527, R533, R536	RD1/2PM□□□J
	R513—R519, R522, R523, R537	RD1/4PM□□□J
	Other resistors	RD1/8PM□□□J

AF Assembly (GWK-272)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC101 OP-AMP IC	M5218P
★★	IC104—IC107, IC109—IC111,	M5218PF
★★	IC113 OP-AMP IC	
★★	IC103, IC108 E-SW IC	TC9162N
★★	IC102 E-SW IC	TC9164N
★★	IC112 E-VR IC	TC9177P
★★	IC301 Regulator IC	UPC78M05H
★★	Q325	RN1203 (DTC124ES) (2SC3400)
★★	Q319—Q321	2SA1048 (2SA1115) (2SA933S)
★★	Q309, Q310	2SA968-O* (2SA968-Y)*
★★	Q301, Q302	2SA979
★★	Q317	2SB750A
★★	Q307, Q308	2SC2238-O* (2SC2238-Y)*

Mark	Symbol & Description	Part No.
★★	Q303, Q304	2SC2240 (2SC1845)
★★	Q313, Q314, Q316, Q322	2SC2458 (2SC1740S) (2SC2603)
★★	Q305, Q306, Q311, Q312	2SC2705
★★	Q315	2SD438
★★	Q318	2SD836A
★	D322	HZ16EB (RD16EB)
★	D305, D306, D309, D310	HZ4.7EB (RD4.7EB)
★	D315, D323	KZL130
★	D321	KZL150
★	D318	RB602
★	D319, D320, D330—D333	S5566 (11E2)
★	D301—D304, D307, D308, D311—D314, D316, D317, D324—D329, D334, D335, D336	ISS131

*hfe should have the some value.

SWITCHES, RELAY

Mark	Symbol & Description	Part No.
★★	S101 Push switch (STEREO/MONO)	ASG-424
★★	S301 Push switch (SPEAKERS A/B)	SUN5LXYS
★★	RY301 Relay (Protection)	ASR-107 (ASR-109)

COILS, TRANSFORMER

Mark	Symbol & Description	Part No.
	L301, L302 Inductor	ATH-090
△ ★	T301 Power transformer	ATS-289

CAPACITORS

Mark	Symbol & Description	Part No.
	C332, C351 (0.01/AC150V)	ACG-019
	C333, C334 (6800/50V)	ACH1001
	C307, C308	CCCSL020C50 (CCDSL020C50)
	C313, C314	CCCSL020C500 (CCDSL020C500)
	C303, C304	CCCSL101J50 (CCDSL101J50)
	C317—C320	CCCSL101K500 (CCDSL101K500)
	C143, C144	CCCSL151J50 (CCDSL151J50)
	C158	CCCSL181J50 (CCDSL181J50)
	C149, C150	CCCSL270J50 (CCDSL270J50)
	C305, C306	CCCSL470J50 (CCDSL470J50)

Mark	No.	Part No.	Description
	C163, C164 C156 C323, C324 C353, C354 C331		CCDSL221J50 CEANL0R1M50 CEANP2R2M50 CEAS0R1M50 CEAS010M100
	C349 C127, C128, C137, C138, C159, C344, C346 C105, C106, C355 C113, C114, C153, C154, C330, C343		CEAS010M50 CEAS100M25 CEAS101M10 CEAS101M25
	C315, C316 C321, C322 C123, C124, C347, C348 C125, C126 C350		CEAS101M35 CEAS101M63 CEAS2R2M50 CEAS220M16 CEAS221M10
	C339, C342 C352 C157 C329 C335, C336		CEAS221M25 CEAS222M25 CEAS4R7M50 CEAS471M6 CEHAQ4R7M50
	C115—C120, C141, C142, C147, C148, C151, C152, C301, C302 C309, C310		CEYA100M25 CEYA101M16
	C337, C340 C101, C102, C111, C112		CEYA101M25 CEYA2R2M50
	C121, C122 C345		CEYA220M25 CKCYB222K50 (CKDYB222K50)
	C135, C136		CKCYB331K50 (CKDYB331K50)
	C103, C104, C161, C162		CKCYB391K50 (CKDYB391K50)
	C165, C356, C357		CKCYF473Z50 (CKDYF473Z50)
	C359, C360 C325—C328 C311, C312 C131, C132, C139 C107, C108 C133, C134, C341		CQMA102K50 CQMA104K50 CQMA122K50 CQMA153K50 CQMA222J50 CQMA222K50
	C130 C145, C146 C155 C140, C358 C129 C109, C110		CQMA332K50 CQMA333K50 CQMA393K50 CQMA473K50 CQMA683K50 CQMA822J50

RESISTORS

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
⚠	R343—R346 (0.22Ω:2WX2) R393 Cabon composition resistor (2.2MΩ: 1/2W)	ACN-131 ACN-209
	R301, R302, R305, R306, R313— R316, R373, R376	RDR1/4PM□□□J
⚠	R391 R372	RD1/2PM471J RD1/4PMFL2R2J
	R115, R116, R307—R310, R317— R324, R329—R334, R355, R356, R374, R378, R379	RD1/4PM□□□J
⚠	R335—R342, R347, R348, R353, R354, R361, R362, R375, R370, R390 R392	RFA1/4PS□□□J RFA1/4PS100J
	R325—R328 R363—R368, R371	RN1/4PQ□□□□F RS1PMF□□□J
	R377 Other resistors	RS2LMFR47J RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	Terminal 4P (VCR1, AUDIO ADAPTOR)	AKB-094
	Terminal 6P (AUDIO INPUT, TAPE, VIDEO INPUT, VIDEO ADAPTOR/VCR2)	AKB-095
	Transistor socket	AKH-017

Microcomputer Assembly (GWP-162)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC404, IC405	HD74LS26P
★★	IC401 MIDI VS AMP CONTROL	PDE007
★★	IC402, IC403	TC4011BP
★★	Q402, Q403, Q405, Q408	RN1203 (DTC124ES) (2SC3400)
★	Q401	RN2203 (DTA124ES) (2SA1346)
★★	Q410	2SA1048 (2SA1115) (2SA933S)
★★	Q409	2SB560
★★	Q404	2SC2458 (2SC1740S) (2SC2603)
★★	Q406, Q407	2SD438
★	D407	S5566 (11E2)
★	D401—D406, D408, D420—D422	1SS131

CAPACITORS

Mark	Symbol & Description	Part No.
	C405 Capacitor (4700/55V) C406, C407	ACH-902 CCCCH121J50 (CCDCH121J50)
	C402, C404, C408 C403 C401	CEAS100M25 CEAS101M10 CKCYB222K50 (CKDYB222K50)
	C409	CKCYB472K50 (CKDYB472K50)

RESISTORS

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
⚠	R438 R431, R433 Other resistors	RA8S473J RFA1/4PS270J RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
★	X401 Ceramic resonator	ASS-039

Headphone Assembly

OTHERS

Mark	Symbol & Description	Part No.
	Jack (PHONES)	AKN-045

Mic Jack Assembly

CAPACITOR

Mark	Symbol & Description	Part No.
	C166	CQMA473K50

OTHERS

Mark	Symbol & Description	Part No.
	Jack (MIC)	AKN-052

Transistor Assembly

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	Q323, Q324	2SC2603(A)

Video Assembly (GWQ-131)

SEMICONDUCTORS

Mark	Symbol & Description	Part No.
★★	IC803	HD74LS26P
★★	IC804	M74LS04P
★★	IC601—IC603	TC4066BP
★★	IC805 TV IC	UPC1377C
★★	IC801	UPD4066BC
★★	IC802 DISPLAY IC	UPD6105C
★★	Q809	RN2203
★★	Q803	2SA933S (2SA1048)
★★	Q601—Q612, Q801, Q802, Q804— Q808, Q810—Q812	2SC1740S (2SC2458)
★	D701	HZ3.0EB (RD3.0EB)
★	D601—D608, D702, D703, D801— D806	1SS131

RELAIES

Mark	Symbol & Description	Part No.
⚠ ★★	RY701, RY702 Power relay	ASR-512

COILS

Mark	Symbol & Description	Part No.
	L701—L707 Inductor (33μH)	ATH-100
	L801 Inductor (56μH)	ATH-114

CAPACITORS

Mark	Symbol & Description	Part No.
	C820 PP Capacitor (5600P)	ACE1001
	C810 (1/16V)	ACH-909
	TC801 Trimmer capacitor	ACM-019
	C605, C609	CCCCH220J50 (CCDCH220J50)
	C804	CCCCH270J50 (CCDCH270J50)
	C614	CCCCH330J50 (CCDCH330J50)
	C812	CCCSL101J50 (CCDSL101J50)
	C608, C612, C617	CCCSL151J50 (CCDSL680J50)
	C809, C818 C711—C714	CEAS010M50 CEAS101M10
	C706—C708, C710, C715, C716 C814	CEAS101M16 CEAS2R2M50
	C606, C610, C615, C703—C705, C801	CEAS220M16
	C802	CEAS221M10
	C613	CEAS330M16

Mark	Symbol & Description	Part No.
	C601-C604	CEAS470M10
	C607, C611, C616	CEAS471M10
	C816	CKCYB152K50 (CKDYB152K50)
	C803	CKCYB331K50 (CKDYB331K50)
	C806	CKCYB332K50 (CKDYB332K50)
	C805, C819	CKCYB472K50 (CKDYB472K50)
	C821	CKCYB561K50 (CKDYB561K50)
	C807, C808	CKCYX333M25 (CKDYX333M25)
	C701, C702, C709, C813, C815	CKCYX473M25 (CKDYX473M25)
	C811	CQMA333J50
	C817	CQMA823J50

RESISTORS

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
★	VR802 Semi-fixed resistor (1k Ω)	VRTB6VS102
★	VR803 Semi-fixed resistor (2.2k Ω)	VRTB6VS222
★	VR801 Semi-fixed resistor (4.7k Ω)	VRTB6VS472
⚠	R614, R622, R633	RD1/2PM471J
	R701-R703, R706, R707	RFA1/4PS150J
	R855	RN1/4PQ1302F
	Other resistors	RD1/8PM□□□J

OTHERS

Mark	Symbol & Description	Part No.
	Terminal 3P (VIDEO INPUT, VIDEO ADAPTOR/VCR2, VCR1)	AKB-125
	Terminal 1P (VIDEO OUTPUT)	AKB-137
	Mini terminal (CONTROL INPUT/ OUTPUT)	AKN-207
	RF Modulator	AXX-013

RF SW Assembly

SWITCH · RELAY

Mark	Symbol & Description	Part No.
★★	S601 Slide switch (3ch/4ch)	ASH-031
★★	RY601 Relay (VHF Input/Output Select)	ASR-087

CAPACITOR

Mark	Symbol & Description	Part No.
	C618	CCCSL680J50 (CCDSL680J50)

RESISTORS

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
	R643	RD1/8PM152J
	R649	RD1/4PMF181J

OTHERS

Mark	Symbol & Description	Part No.
	Connector F type (2P) (VHF IN/OUT)	AKX-210

SP Terminal Assembly

OTHERS

Mark	Symbol & Description	Part No.
	Terminal (SPEAKERS)	AKE-111

Switch Assembly

SEMICONDUCTOR

Mark	Symbol & Description	Part No.
★	D530	AEL-457

SWITCH

Mark	Symbol & Description	Part No.
★★	S511 Tact switch (STAND-BY)	ASG-711

10. ADJUSTMENT

* Use the Remote Control CU-AX002 attached to A-X909V (BK) to make adjustments.

10.1 ADJUSTING HORIZONTAL, VERTICAL, AND SYNCHRONIZATION FREQUENCY

■ Adjusting Horizontal Oscillation Frequency

Procedure (Preparatory Steps):

- Set to VDP Function.
 - Turn off the VIDEO ADAPTOR.
 - Set the VIDEO disc input and television monitor output to 75Ω.
 - Connect TP.7 and TP.10 (GND) with the Frequency Counter.
 - After turning the electric power source on, set to VR MIN and let running for 30 minutes before conducting adjustment 1.
1. Set VR803 to central position and adjust VR802 to set the frequency to $15734\text{Hz} \pm 50\text{Hz}$. If not within the specified range when conducting the above mentioned, use VR803 to adjust.

■ Vertical Oscillation Frequency Adjustment

1. Connect the TP.8 and TP.10 (GND) with the Frequency Counter (Installing a 100Hz low pass filter between the Frequency Counter and TP.8 achieves stability and facilitates adjustment.)
2. Adjust VR801 to set the frequency to $60\text{Hz} \pm 1\text{Hz}$.

■ Superimposition Adjustment

Procedure

- Set to VDP Function.
 - Turn off the VIDEO ADAPTOR.
 - Connect Pattern Generator to Video Disc input and monitor TV to Monitor TV output.
1. Input a 100% white signal via the Pattern Generator. Turn on the DISPLAY CALL via remote control. Use TC801 to adjust the whole superimposition character block to the center of the TV picture plane.

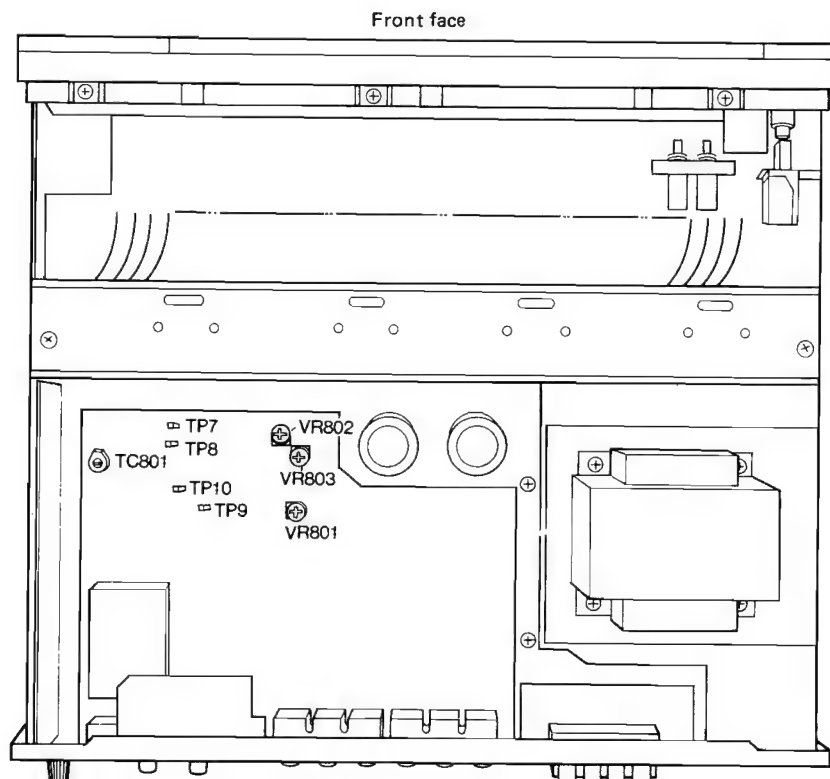


Fig. 10-1 Adjustment locations

10. RÉGLAGE

* Utiliser la télécommande CU-AX002 livrée avec le A-X909V (BK) pour effectuer les réglages.

10.1 Réglages des Fréquences Horizontale, Verticale et de Synchronisation

■ Réglage de la Fréquence d'Oscillation Horizontale

Procédure (Étapes Préliminaires):

- Mettre l'appareil sur la fonction VDP.
 - Mettre l'adaptateur vidéo (VIDEO ADAPTOR) hors tension.
 - Placer l'entrée disque vidéo (VIDEO) et la sortie moniteur télévision sur 75Ω .
 - Connecter le fréquencemètre entre les points test TP.7 et TP.10 (masse - GND).
 - Après avoir mis sous tension, placer l'appareil sur VR MIN et attendre 30 minutes avant de procéder au réglage 1.
1. Placer VR803 en position médiane et régler VR802 de manière à obtenir une fréquence de $15734\text{Hz} \pm 50\text{Hz}$. Si elle ne se trouve pas dans cet intervalle lors du réglage mentionné ci-dessus, utiliser VR803 pour la régler.

■ Réglage de la Fréquence d'Oscillation Verticale

1. Connecter le fréquencemètre entre les points test TP.8 et TP.10 (masse - GND) (en plaçant un filtre passe-bas de fréquence de coupure 100Hz entre le fréquencemètre et TP.8 afin d'obtenir une lecture stable et de faciliter les réglages).
2. Régler VR801 pour obtenir une fréquence de $60\text{Hz} \pm 1\text{Hz}$.

■ Réglage de la Superposition

Procédure

- Placer l'appareil sur la fonction VDP.
 - Mettre l'adaptateur vidéo (VIDEO ADAPTOR) hors tension.
 - Connecter un générateur de mire à l'entrée disque vidéo et un moniteur TV à la sortie moniteur TV.
1. Injecter un signal 100% blanc à l'aide du générateur de mire. Mettre en fonction l'appel d'affichage (DISPLAY CALL) à l'aide de la télécommande. Utiliser TC801 pour amener le bloc complet en superposition au centre de l'image TV.

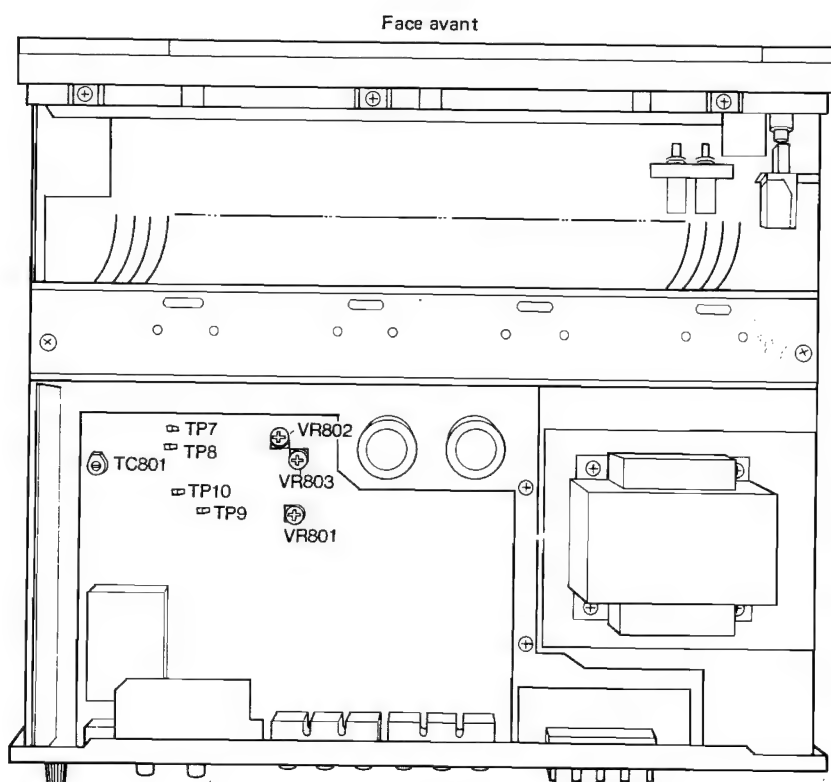


Fig. 10-1 Emplacements des réglages

10. AJUSTE

* Emplee el controlador remoto CU-AX002, que se incluye con el A-X909V (BK) para realizar los ajustes.

10.1 Ajuste de la Frecuencia de Oscilacion Horizontal, Vertical y de Sincronizacion

■ Ajuste de la Frecuencia de Oscilacion Horizontal

Procedimientos (Pasos preparatorios):

- Ajuste la función VDP.
 - Desconecte el videoadaptador (VIDEO ADAPTOR).
 - Ajuste la entrada de discos de VIDEO y la salida del motor del televisor a 75Ω.
 - Conecte los TP.7 y TP.10 (GND) con el frecuencímetro.
 - Después de haber conectado la fuente de alimentación eléctrica, ajuste a VR MIN y deje en funcionamiento durante 30 minutos antes de realizar el ajuste 1.
1. Ajuste el VR803 a la posición central y ajuste el VR802 para establecer la frecuencia a $15734\text{Hz} \pm 50\text{Hz}$. Si no está dentro del margen especificado al realizar el ajuste arriba mencionado, emplee el VR803 para ajustarla.

■ Ajuste de la Frecuencia de Oscilacion Vertical

1. Conecte los TP.8 y TP.10 (GND) con el frecuencímetro. (Instalando un filtro de paso bajo de 100Hz entre el frecuencímetro y el TP.8 se consigue estabilidad y se facilita el ajuste.)
2. Ajuste el VR801 para establecer la frecuencia a $60\text{Hz} \pm 1\text{Hz}$.

■ Ajuste de la Superposicion

Procedimientos

- Ajuste la función VDP.
 - Desconecte el videoadaptador (VIDEO ADAPTOR).
 - Conecte el generador de patrones a la entrada de videodiscos y el TV monitor a la salida de TV monitor.
1. Introduzca una señal blanca del 100% a través del generador de patrones.
Conecte la función DISPLAY CALL a través del controlador remoto. Emplee TC801 para ajustar todo el bloque de caracteres de superimposición en el centro del plano de imagen del TV.

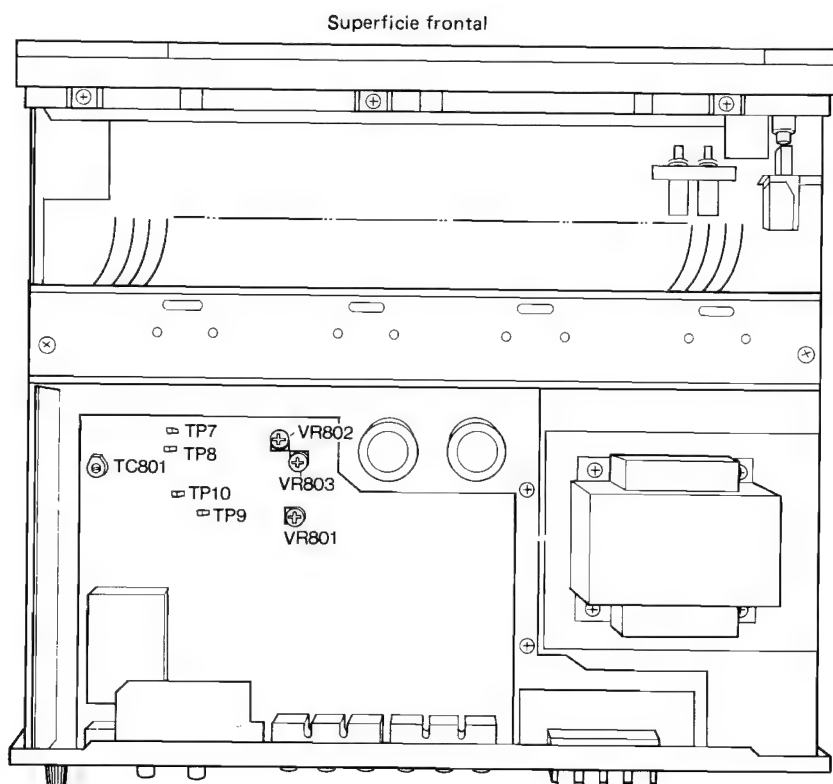


Fig. 10-1 Lugares de ajuste

11. REMOTE CONTROL SECTION/FRONT PANEL FACILITIES

Let's **LISTEN TO THE SOUND** of the audio components

First, set the switch below to 'A'



MUTING key

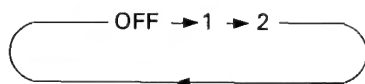
Pressing this key mutes the sound. Pressing it again restores the original sound volume.

POWER key for AV master amplifier

Press to switch its power to ON or OFF.

S·EFFECT OFF/1/2 Key

Selects the SOUND mode of the AV master amplifier



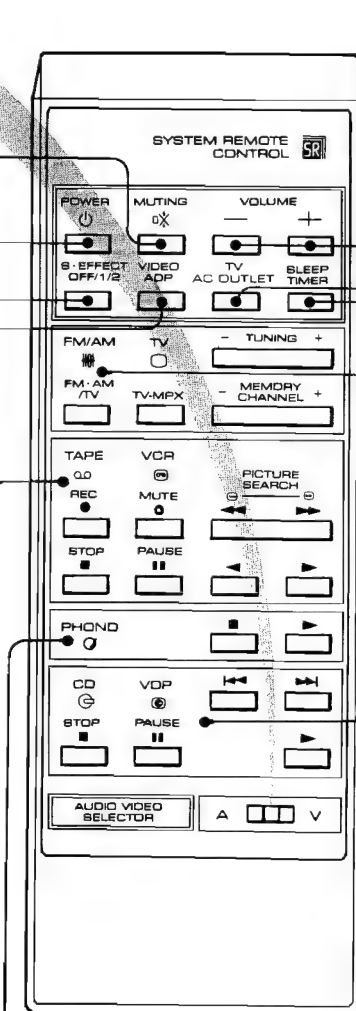
VIDEO ADAPTOR key

Switches the VIDEO ADAPTOR switch of the AV master amplifier (ex. A-X909V) to ON or OFF.

Cassette Tape Deck Operation Keys

TAPE
Q

- REC key** : Recording key
- MUTE key** : Mutes the recording
- ◀▶ keys** : Fast forward, Re-wind keys
- STOP key** : Stops tape motion
- PAUSE key** : Temporarily stop tape motion (During recording only)
- ▶◀ keys** : The functions of the amplifier become function of cassette deck and tape playing is started.
 - ▶ Forward PLAY key
 - ◀ Reverse PLAY key



VOLUME adjustment keys for AV master amplifier

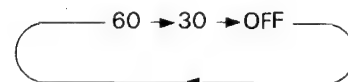
- : Lower + : Higher

TV/AC OUTLET key

Switches the AC OUTLET for the TV of the AV master amplifier to ON or OFF.

SLEEP key

Switches the sleep time setting of the AV master amplifier.



FM/AM Tuner Operation Keys

FM/AM
T

FM·AM key : The functions of the /TV : amplifier become function of the FM/AM tuner and FM/AM broadcast can be received.

MEMORY CHANNEL key : Channel select key for choosing the broadcast station to be preset to the tuner

TUNING + key : Frequency UP/DOWN

Turntable Operation Keys

PHONO
Q

- ▶ key** : The functions of the amplifier become function of the turntable and record playing is started.
- key** : Stops playing of the turntable

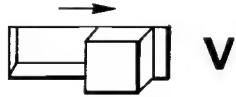
Compact Disc Operation Keys

CD
G

- ▶ key** : The functions of the amplifier become function of compact disc player and disc playing is started.
- ◀▶ keys** : Track search keys
- PAUSE key** : Temporarily stops playing of the disc
- STOP key** : Stops playing of the disc

Let's **LOOK AT THE IMAGES** of the video components.

First, set the switch below to **'V'**.



AUDIO VIDEO SELECTOR

This can turn the power switches of TV sets with the Pioneer **SR** mark ON and OFF.

This can perform the same operation as when the above switch is set to the "A" position.

TV Tuner Operation Keys (SD-25, 25A + SD-X5, X7)

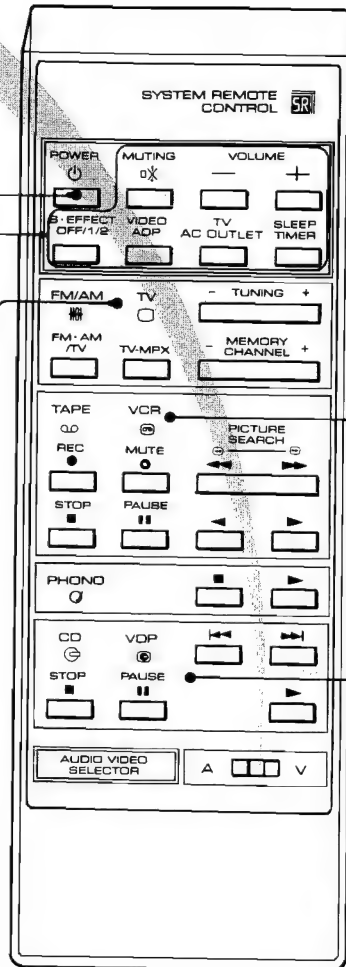
FM · AM /TV key : The functions of the amplifier become function of the TV tuner and TV broadcast can be received.

TV MPX : MULTIPLEX mode select key

MAIN/SAP → MAIN → SAP

MEMORY CHANNEL key : Channel select key for the next TV channels.

TUNING + key : No more



VCR Operation Keys

VCR

REC key : Recording Key

MUTE key : No more

PICTURE SEARCH key : In PLAY mode; Picture search
In STOP mode; Fast forward or rewinds the tape

STOP key : Stops playing of the Video Cassette Recorder

PAUSE key : Temporarily stops tape motion during recording or playback

▶ key : The functions of the amplifier become function of Video Cassette Recorder and video tape playing is started. (VCR can only perform forward playback ▶)

VDP Operation Keys

VDP

▶ key : The functions of the amplifier become function of Laser-Vision player and disc playing is started.

◀▶ keys : Scan Forward/Reverse keys

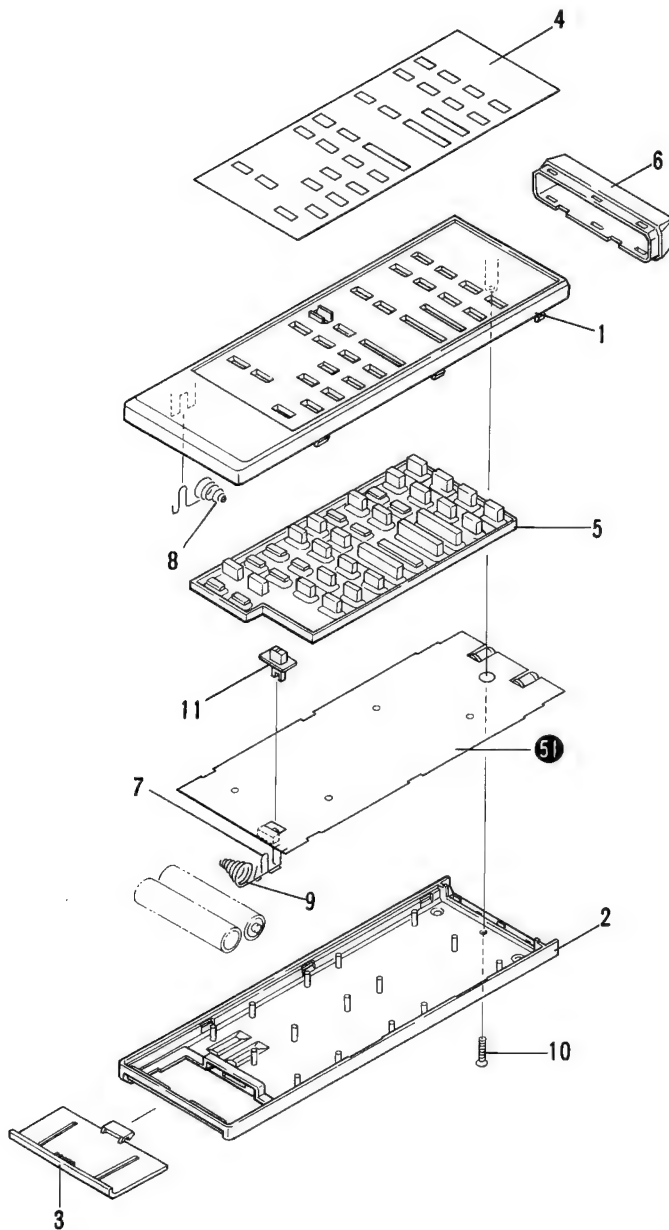
◀ key : Reverses the portions of the disc to a previous image

▶ key : Fast forwards the portions of the disc to a forthcoming image
Chapter skipping cannot be performed

PAUSE key : Temporarily stops playing of the LaserVision disc

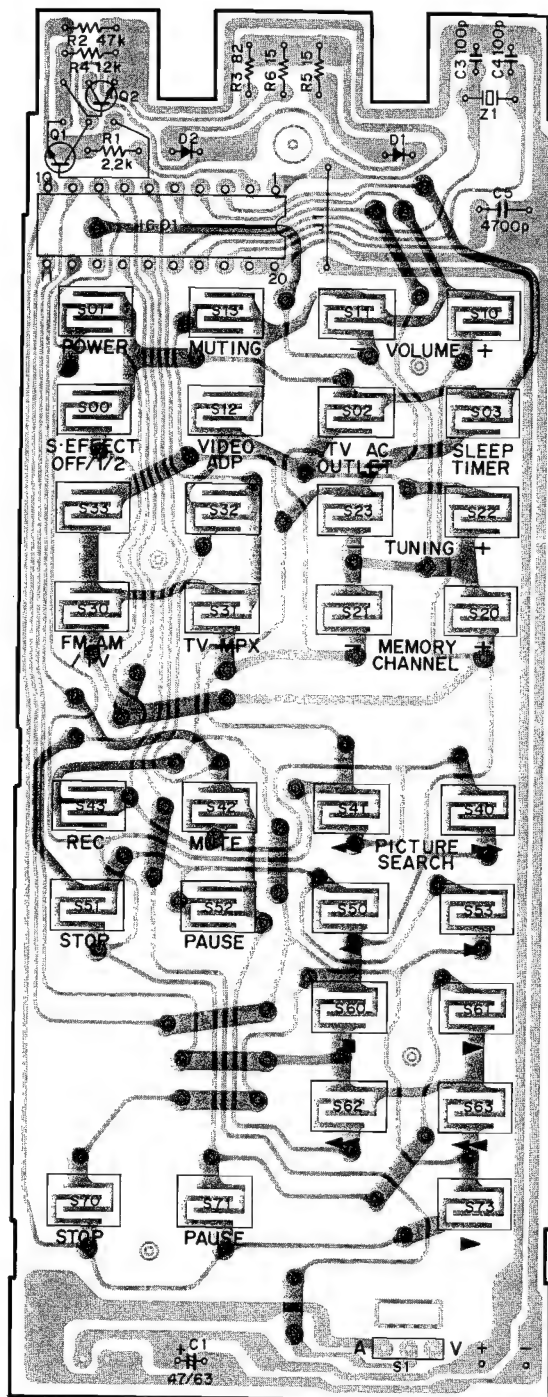
STOP key : Stops playing of the Laser-Vision disc.

12. REMOTE CONTROL SECTION/ EXPLODED VIEW AND PARTS LIST



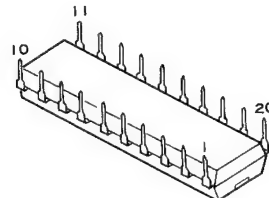
Mark	No.	Part No.	Description
	1	AZN1049	Bonnet case assembly
	2	AZN1050	Under case (Bottom case)
	3	AZN1051	Battery lid
	4	AZA1019	Aluminium plate
	5	AZA1020	Rubber switch
	6	AZN1052	Filter
	7	AZK1021	Battery terminal
	8	AZK1022	Battery spring (A)
	9	AZK1023	Battery spring (B)
	10	CRZ20P080FZK	Screw
	11	AZA1023	Slide knob
	51		P.C. Board Assembly

13. REMOTE CONTROL SECTION / P.C. BOARD PATTERNS

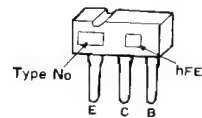


External Appearance of Transistors and ICs

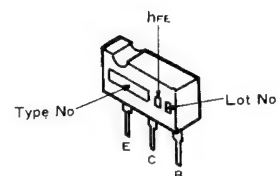
PD5035



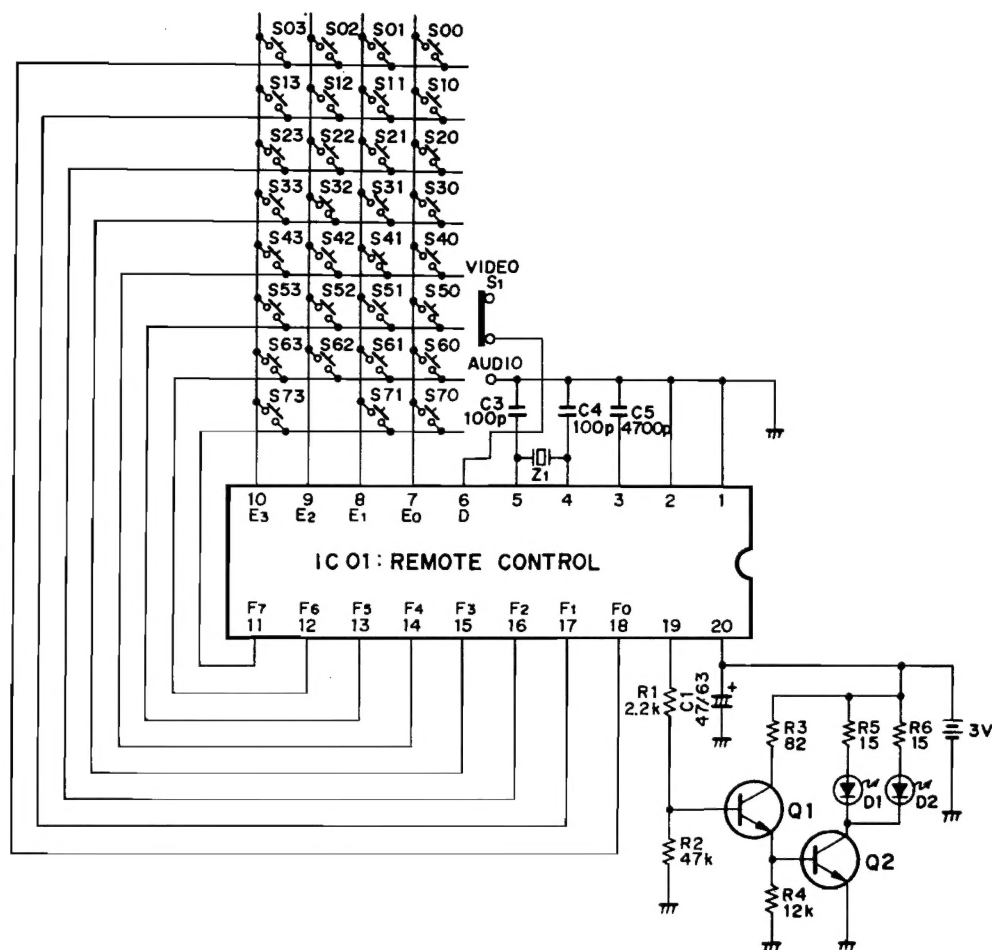
2SC2021



2SC2673



14. REMOTE CONTROL SECTION/SCHEMATIC DIAGRAM



Q1, 2 : INFARED RAYS LED DRIVER

IC1 PD5035
 Q1 2SC2021
 Q2 2SC2673
 D1, 2 SE303A
 Z1 CSB480EB

1. RESISTORS

Indicated in Ω , 1/8W & 1/4W, $\pm 5\%$ tolerance unless otherwise noted k; $k\Omega$, M; $M\Omega$, (F); $\pm 1\%$, (G); $\pm 2\%$, (K); $\pm 10\%$, (M); $\pm 20\%$ tolerance.

2. CAPACITORS:

Indicated in capacity (μF)/voltage (V) unless otherwise noted p; pF. Indication without voltage is 50V except electrolytic capacitor.

3. OTHERS :

; Signal route.
 ; Adjusting point.

The mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

* marked capacitors and resistors have parts numbers. The underlined indicates the switch position.

This is the basic schematic diagram, but the actual circuit may vary due to improvements in design.

SWITCHES:

S1 : AUDIO/VIDEO SELECTOR AUDIO-VIDEO

S1 \rightarrow VIDEO SIDE

S00 S-EFFECT OFF/1/2 (AMP)
 S01 POWER ON/OFF (TV)
 S02 TV/AC OUTLET (AMP)
 S03 SLEEP TIMER (AMP)
 S10 VOL + (AMP)
 S11 VOL - (AMP)
 S12 VIDEO ADP. (AMP)
 S13 MUTING (AMP)
 S20 MEMORY CHANNEL + (TV)

S21 MEMORY CHANNEL - (TV)
 S22 TUNING + (TV)
 S23 TUNING - (TV)
 S30 TV (AMP)
 S31 TV-MPX (TV)
 S32 VOL + (TV)*
 S33 VOL - (TV)*
 S40 PICTURE SEARCH \Rightarrow (VCR)
 S41 PICTURE SEARCH \Leftarrow (VCR)
 S42 MUTE \circ (VCR)
 S43 REC \bullet (VCR)
 S50 \square (VCR)
 S51 STOP \blacksquare (VCR)
 S52 PAUSE \parallel (VCR)
 S53 \blacktriangleright (VCR)
 S60 \blacktriangleleft (VDP)
 S61 \blacktriangleright (VDP)
 S62 \blacktriangleleft (VDP)
 S63 \blacktriangleright (VDP)
 S70 \parallel (VDP)
 S71 \parallel (VDP)
 S72 \blacktriangleleft (VDP)
 S73 \blacktriangleright (VDP)

S1 \rightarrow AUDIO SIDE
 S00 S-EFFECT OFF/1/2 (AMP)
 S01 POWER ON/OFF (AMP)
 S02 TV/AC OUTLET (AMP)
 S03 SLEEP TIMER (AMP)

S10 VOL + (AMP)
 S11 VOL - (AMP)
 S12 VIDEO ADP. (AMP)
 S13 MUTING (AMP)
 S20 MEMORY CHANNEL + (TUNER)
 S21 MEMORY CHANNEL - (TUNER)
 S22 TUNING + (TUNER)
 S23 TUNING - (TUNER)
 S30 FM-AM (AMP)
 S31 \blacktriangleleft (TV)*
 S32 VOL + (TV)*
 S33 VOL - (TV)*
 S40 \blacktriangleleft (DECK)
 S41 \blacktriangleleft (DECK)
 S42 MUTE \circ (DECK)
 S43 REC \bullet (DECK)
 S50 \square (DECK)
 S51 STOP \blacksquare (DECK)
 S52 PAUSE \parallel (DECK)
 S53 \blacktriangleleft (DECK)
 S60 \blacktriangleleft (PHONO)
 S61 \blacktriangleleft (PHONO)
 S62 \blacktriangleleft (CD)
 S63 \blacktriangleleft (CD)
 S70 STOP \blacksquare (CD)
 S71 PAUSE \parallel (CD)
 S72 \blacktriangleleft (CD)
 S73 \blacktriangleright (CD)

*: Though the asterisk-marked switches S32, S33 are illustrated in the circuit and pattern diagrams, they can not be pushed on the actual remote control unit.

15. REMOTE CONTROL SECTION/ELECTRICAL PARTS LIST

NOTES:

- When ordering resistors, first convert resistance values into code form as shown in the following examples.
 Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).
 560Ω 56 × 10¹ 561 RD4PS 5 6 1 J
 47kΩ 47 × 10³ 473 RD4PS 4 7 3 J
 0.5Ω 0R5 RN2H 0 R 5 K
 1Ω 010 RS1P 0 1 0 K
 Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).
 5.62kΩ 562 × 10¹ 5621 RN4SR 5 6 2 1 F
 • The Δ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.
 • For your Parts Stock Control, the fast moving items are indicated with the marks ** and *.
 ** GENERALLY MOVES FASTER THAN *
 This classification shall be adjusted by each distributor because it depends on model number, temperature, humidity, etc.
 • Parts marked by "⊙" are not always kept in stock. Their delivery time may be longer than usual or they may be unavailable.

P.C. Board Assembly

SEMICONDUCTOR

Mark	Symbol & Description	Part No.
**	IC1	PD5035
**	Q1	2SC2021
**	Q2	2SC2673
*	D1, D2 LED (RED)	SE303A(Y)

OTHERS

Mark	Symbol & Description	Part No.
	Z1 Ceramic resonator	CSB480EB

SWITCH

Mark	Symbol & Description	Part No.
**	SW1 Slide switch (VIDEO/AUDIO)	AZS1011

CAPACITORS

Mark	Symbol & Description	Part No.
	C1	CEAJ470M6
	C3, C4	CCDCH101J50
	C5	CKDYF472Z50

RESISTORS

Note: When ordering resistors, convert the resistance value into code form, and then rewrite the part no. as before.

Mark	Symbol & Description	Part No.
	R1-R6	RD1/8PM□□□J

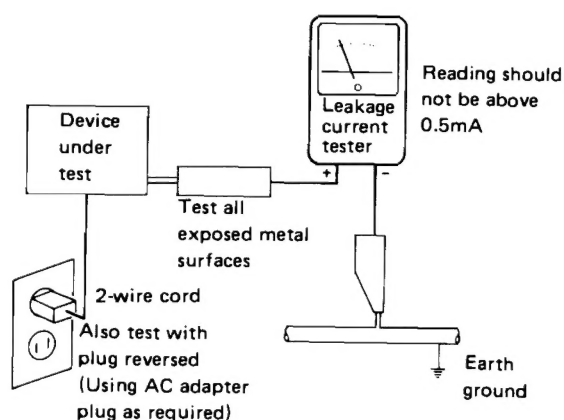
16. SAFETY INFORMATION

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a Δ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

